

MISSOURI DEPARTMENT OF CONSERVATION



March/April 2017

Xplor



PULL ON YOUR MUD
BOOTS! WE'RE WADING
INTO MISSOURI'S
**SOGGIEST
HABITATS**

CONTENTS

FEATURES

6 Woodland Wildflower Challenge

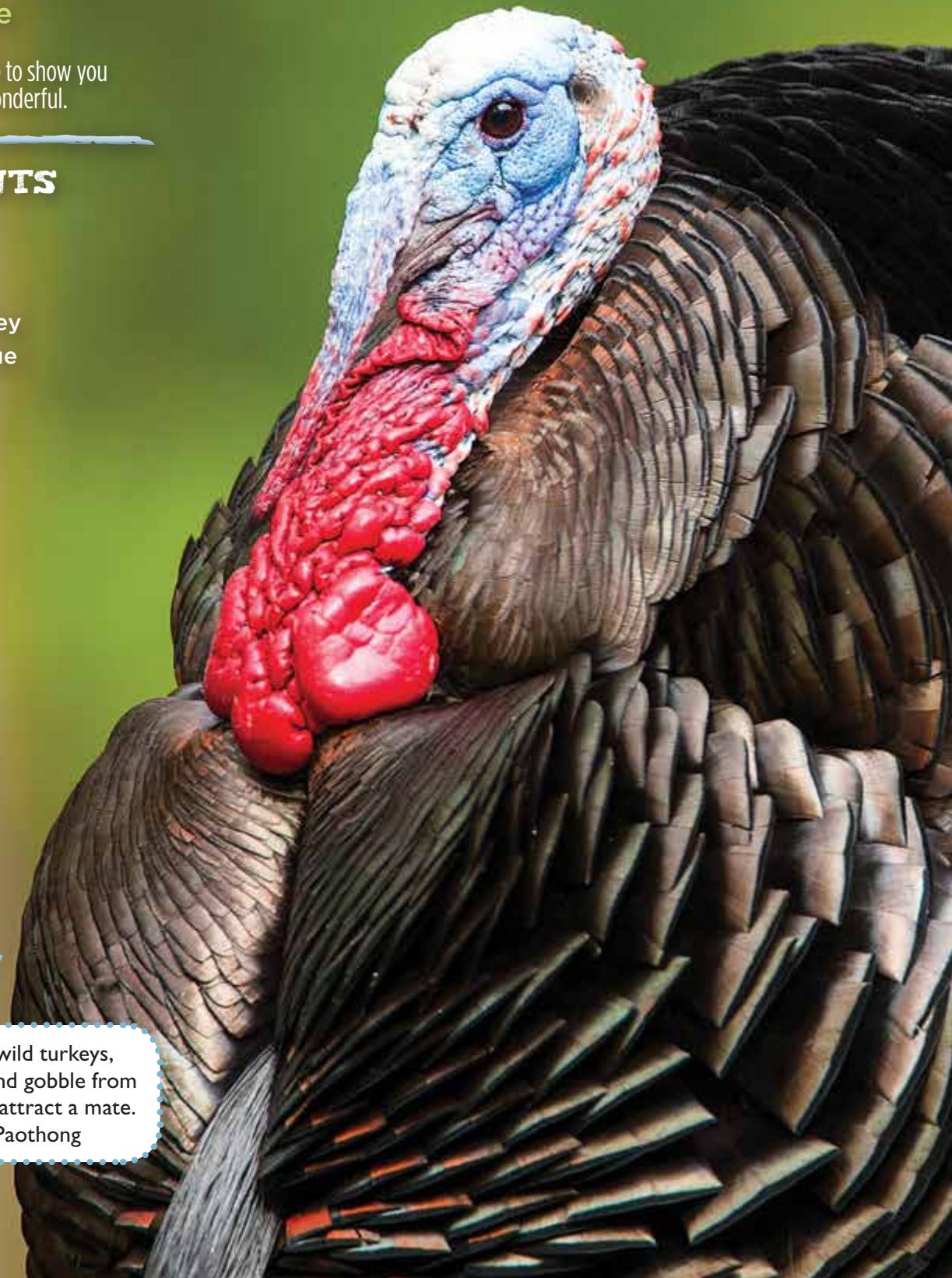
Visit your nearest woods to spot the first frilly signs of spring.

10 Frank's Guide to Wetlands

Meet Frank. He's here to show you why wetlands are wonderful.

DEPARTMENTS

- 2 Get Out!
- 3 What Is It?
- 4 Into the Wild
- 16 Predator vs. Prey
- 17 Strange but True
- 18 How To
- 20 Xplor More



Gobble, gobble. Male wild turkeys, called gobblers, strut and gobble from March through May to attract a mate.

by Noppadol Paothong

CONSERVATION COMMISSION

Don C. Bedell
James T. Blair, IV
Marilynn J. Bradford
David W. Murphy

DIRECTOR
Sara Parker Pauley

XPLOR STAFF

Bonnie Chasteen
Les Fortenberry
Karen Hudson
Angie Daly Morfeld
Noppadol Paothong
Marci Porter
Mark Raithel
Laura Scheuler
Matt Seek
David Stonner
Nichole LeClair Terrill
Stephanie Thurber
Cliff White

Xplor (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6–8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856 or 3249.

Copyright © 2017 by the Conservation Commission of the State of Missouri. Vol. 8, No. 2. March/April 2017 issue printed by LSC Communications in February 2017 in Liberty, Missouri. Printed in the USA.

Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** *Xplor@mdc.mo.gov*. **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age, or disability. Questions should be directed to the Department of Conservation, PO Box 180, Jefferson City, MO 65102, 573-751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBS-4020, Arlington, VA 22203.



We recycle.
You can, too! Share
Xplor with friends.

ON THE COVER

Black-Necked Stilt

by Noppadol Paothong

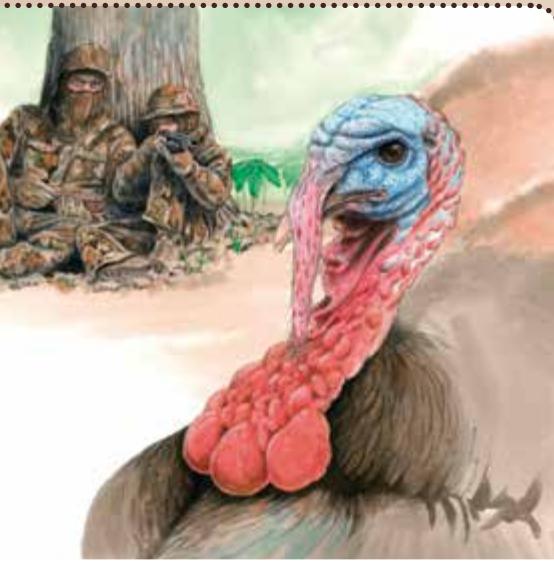


GET OUT!

FUN THINGS TO DO
AND GREAT PLACES
TO DISCOVER NATURE



HIKE A TRAIL to enjoy the sights and sounds of spring, especially wildflowers, butterflies, and birds. Find trails at your nearest MDC nature center or conservation area.



Listen for wild turkeys calling, and **TRY A SPRING TURKEY HUNT.**

The youth portion (ages 6–15) of Missouri's spring turkey season is April 8 and 9. Ask your favorite turkey-hunting grown-up to help you get started.

LISTEN FOR SPRING PEEPERS when the temperature stays above 40 degrees for a few days.

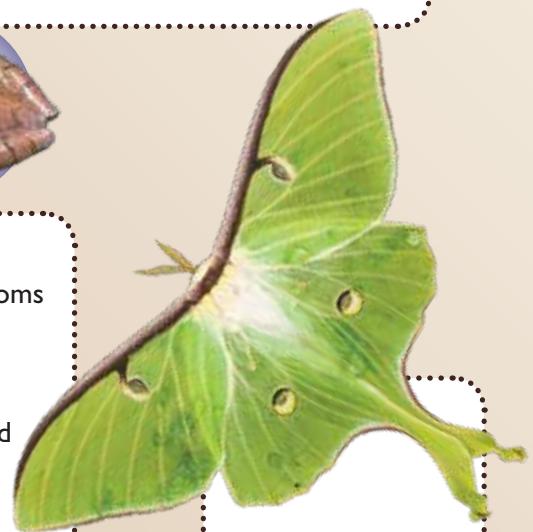


LOOK FOR MORELS. These delicious, deeply dimpled mushrooms begin popping up on forest floors in mid-April, and they're just as much fun to hunt as Easter eggs! To be safe, go with an experienced mushroom hunter. Never eat a mushroom unless you're sure it's edible.



MIGRATORY BIRDS ARE RETURNING.

Watch for V-shaped formations of geese and ducks, and keep an eye out for the aerial stunts of purple martins and swallows.



LOOK FOR LUNA MOTHS around your porch light. These big beauties emerge from their cocoons in spring and fly from early April through August.

WHAT IS IT?

DON'T KNOW?

Jump to Page 20 to find out.



- ➊ I'm hard on the outside, and I look like a brute.
- ➋ I dig deep tunnels way under the ground.

- ➌ I eat little critters when the water is high.
- ➍ But I share my home when drought comes around.

Into the Wild trout stream



What Happened Here?

Swallowtails, sulphurs, and other butterflies often cluster over wet areas on gravel bars. They gather to sip up sodium and other minerals that are important to their diet.

Even if you aren't an angler, it's tons of fun to wade around in a cool, clear trout stream.



Listen

Northern parulas are tiny, brightly colored birds that sing from the tippiest top of trees along streams. They're hard to see, but easy to hear. Listen for a buzzy trill that sounds like someone zipping up a zipper.



Fish: Lance Merry

LOOK

You'll need good eyes to spot these fish. Although some of them are brightly colored, they become all but invisible against the gravel at the bottom of a stream.



If you like splashing around in streams, consider joining a Stream Team. Volunteers check water quality, pick up litter, and improve stream habitat. Learn more at mostreamteam.org.

Where to Go

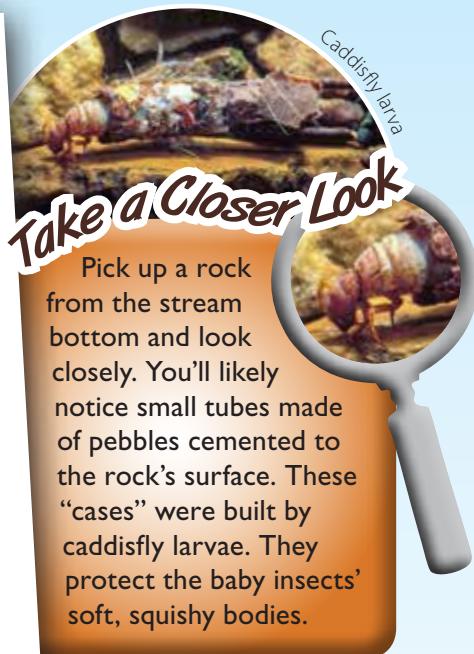
Trout survive best in spring-fed Ozark streams that stay below 70 degrees year-round. If you're chasing rainbows (trout, that is), here's where to find them.

- 1 Bennett Spring State Park
- 2 Montauk State Park
- 3 Roaring River State Park
- 4 Maramec Spring Park
- 5 Current River
- 6 Eleven Point River
- 7 North Fork of the White River



LOOK

The Conservation Department stocks two kinds of trout in Ozark streams. Rainbow trout have an olive-green back, a silvery white belly, and a pink stripe along their sides. Brown trout have a brownish-green back, yellowish-white belly, and orange or red spots on their sides.



Take a Closer Look

Pick up a rock from the stream bottom and look closely. You'll likely notice small tubes made of pebbles cemented to the rock's surface. These "cases" were built by caddisfly larvae. They protect the baby insects' soft, squishy bodies.



Take a Closer Look

Green herons often stalk stream edges, hunting for fish. Watch a heron long enough and you might see an interesting behavior.

The wily birds use bait — such as insects, feathers, or twigs — to lure jittery fish into striking range.



WOODLAND Wildflower CHALLENGE

by Bonnie Chasteen

Spring beauty

In early March, most of Missouri's woods are still gray and bare. But if you take a walk, you might find some signs of spring poking up through the leaf litter. This March and April, take the **Woodland Wildflower Challenge**.

Every week, visit your nearest woods and keep track of the different wildflowers that pop up.

The best way to "collect" wildflowers is with your sketchbook or smartphone. You can even make notecards from your drawings or photos. Send them as handmade Earth Day greetings to your family and friends!

Woodland wildflowers are beautiful, and you may be tempted to pick them. But leave them so the butterflies, birds, bees, and other wild critters can feed on their pollen, nectar, and seeds.

Spring Beauty

These little star-shaped flowers have five white petals with pink veins. You may see them growing in sweeping white masses in woods or on lawns.

WHEN TO LOOK

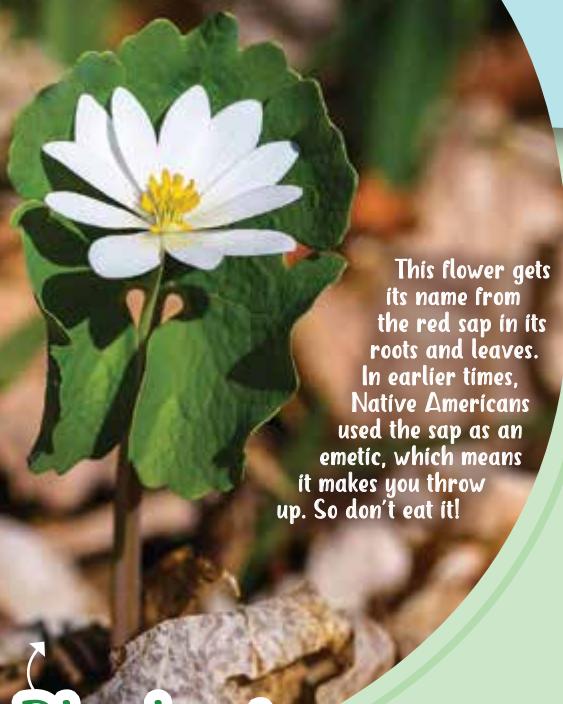
February–May

WHERE TO LOOK

Open woods, fields, and lawns

Spring beauty is also known as "fairy spud" because its edible root looks like a tiny potato.





Bloodroot

It's hard to say what's more awesome about this little flower — the delicate white petals or the single, funny, hand-shaped leaf.

WHEN TO LOOK

March–May, depending on the weather

WHERE TO LOOK

Slopes along wooded streams. Check these areas often because the bloodroot flower lasts only a day or two.

Dutchman's Breeches

It's easy to see how this frilly little flower got its name. It looks like a pair of inflated white knee-pants hanging upside down. The finely cut, fern-like leaves are pretty, too.

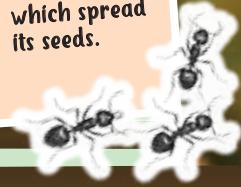
WHEN TO LOOK

March–May

WHERE TO LOOK

Slopes of woods along streams

This flower gets help from ants, which spread its seeds.



Trout Lily

Keep your eyes peeled for a single white flower that looks like a pointed hat nodding from a single stem. The narrow, spotted leaves resemble a trout's shape and coloring.

WHEN TO LOOK

February–May

WHERE TO LOOK

Wooded slopes and valleys



Also known as "thousand leaf" because it can form large colonies of thousands of leaves.



Joseph O'Brien, USDA Forest Service, Bugwood.org



in APRIL



Wake Robin

Also known as trillium, this flower's leafy parts are stacked in groups of three — three purple petals rise from three little leaflets called sepals, which sit atop three main leaves.

This flower stinks, but the odor smells like lunch to flies and other pollinators.

WHEN TO LOOK

April–June

WHERE TO LOOK

Wooded slopes and bottomlands



Columbine

The five long, hollow peaks on this red-and-yellow flower are called nectaries — little chambers that hold nectar, which attracts pollinators.

WHEN TO LOOK

April–July

WHERE TO LOOK

Rock ledges and rocky slopes in woods, often in shady locations

The spiky columbine needs pollinators like hummingbirds that have long beaks or tongues. Not surprisingly, it blooms about the same time hummingbirds migrate back to our state.



Wild Sweet William

This tall blue-violet flower smells sweet and provides early spring nectar for hummingbirds and butterflies.

WHEN TO LOOK

April–June

WHERE TO LOOK

Open woods, thickets, wet stream sides, and bottomlands

Sweet William is also known as "stinking Billy" to those who don't like its fragrance.

Mayapple

You may have to get down on your hands and knees to see the single white flower nodding under this plant's wide, umbrella-shaped leaves.

WHEN TO LOOK
April–May

WHERE TO LOOK
Forms large colonies in shady woods

Mayapples produce a single egg-shaped fruit that turns yellow when it's ripe. Some people gather mayapples in mid-summer to make jelly. Other parts of the plant are poisonous.



Hi, I'm Frank. I study wetlands. Wetlands can be muggy and buggy. They're often soggy and stinky. You might get stuck in the muck. But wetlands aren't wastelands. They're wonderful places! Pull on your rubber boots and slather on some bug spray. Let's wade in.

Frank's Guide to WETLANDS



EMERGENT MARSH

Mashes, swamps, fens, and wet prairies are types of wetlands. One thing they all have in common is that they're covered with shallow water or have soggy soils at least some part of the year. Wetlands are home to all kinds of amazing plants and animals. Let's explore this marsh and see what we find.



Cattails

Marshes have tons of plants (literally!) but not many trees. Since soils are soggy, wetland plants need ways to get oxygen to their roots. Cattails have tiny tubes in their leaves and stems that transport oxygen downward.



Black-necked stilt

The oozy mud and mucky water in a marsh is jam-packed with insects, worms, and snails. Leggy shorebirds like this black-necked stilt wade around and use their long bills to pluck up creepy crawlies for a snack.

Mink

Uh-oh. That muskrat better watch out! A sneaky mink is slinking around hunting for something to eat. These feisty, pint-sized predators feast on frogs, fish, ducks, and anything else they can catch.

Muskrat

If you see a mound made of mud and cattails, that's a muskrat's house.

Muskrats are well-equipped for a watery lifestyle. They have thick, waterproof fur, their webbed feet are perfect for paddling, and they can hold their breath for more than 15 minutes.

If you smell something stinky, it wasn't me. Marsh bottoms pass gas. A handful of muck contains billions of bacteria and other microscopic organisms. Some of them break down dead plants and animals. As they do, they release gases that smell like rotten eggs. Pee-yoo!

Pied-billed grebe

You might think this is a duck, but it isn't. It's a pied-billed grebe. When a grebe gets spooked, it sinks underwater like a feathered submarine. Watch closely. The grebe will resurface a few moments later when it thinks the coast is clear.



CYPRESS SWAMP

Cypress swamps are found in the southeastern corner of Missouri.



Mudsnake

Mudsnakes eat slimy, eel-like amphibians called amphiumas and sirens. These slippery critters squirm into a ball when threatened. But they're no match for a mudsnake, which uses its pointy tail to poke its prey, causing it to uncoil for easier eating.



Bowfin

Sometimes wetlands dry up. Animals that live here have figured out ways to roll with the changes. Take this bowfin for example. When oxygen in the water gets scarce, bowfins gulp air at the surface to stay alive.

Bald cypress

A bald cypress tree breathes with its knees. Bald cypresses have bumpy stumps that stick out of the water. The stumps act like snorkels to carry air down to the tree's waterlogged roots. The knees also provide a wide base to keep the tree upright in the gooey mud.



Prothonotary warbler

Wood ducks aren't the only birds that nest in tree cavities around wetlands. Prothonotary warblers do, too. The bright, beautiful birds hop from branch to branch, plucking insects from leaves as they go.

Alligator snapping turtle



When an alligator snapping turtle gets hungry, it simply opens its mouth and wiggles its pink, worm-shaped tongue. Hungry fish mistake the tongue for an easy meal and learn too late where the name "snapper" comes from.



Wood duck

Mama wood ducks nest in holes high up in trees. A day after they hatch, the ducklings bail out of the nest.

Geronimo! The little fluffballs can fall more than 250 feet without being injured.



Swamp rabbit

This isn't an ordinary cottontail. To escape predators, swamp rabbits hop, skip, and dive into deep water. They are strong swimmers and often come to the surface under roots to hide out until danger has passed.



UNSUNG WONDERS

Not all wetlands look wet. Some are so full of grasses and flowers that you don't notice the soggy soil until you step onto its squishy surface.



FENS

Fens are unique wetlands found mostly in the Ozarks. They form where springs spill across the land, keeping the soil mucky for most of the year. Hine's emerald dragonflies love these conditions. Keep your eyes peeled for the bug-eyed predators patrolling for insects to eat.



WET PRAIRIES

Wet prairies overflow with grasses and wildflowers. Even under this thick green carpet animals thrive. The massasauga is a small, timid rattlesnake that hibernates in crayfish burrows.



EXPLORE!

What are you waiting for? Get out and explore one of these amazing wetlands.

MARSH

- 1 B.K. Leach Conservation Area
- 2 Fountain Grove Conservation Area
- 3 Eagle Bluffs Conservation Area
- 4 Nodaway Valley Conservation Area
- 5 Chloe Lowry Marsh Natural Area
- 6 Swan Lake National Wildlife Refuge

SWAMP

- 7 Mingo National Wildlife Refuge
- 8 Duck Creek Conservation Area
- 9 Otter Slough Conservation Area
- 10 Allred Lake Natural Area
- 11 Hornersville Swamp Conservation Area
- 12 Big Oak Tree State Park

FEN

- 13 Grasshopper Hollow Natural Area
- 14 Big Buffalo Creek Conservation Area
- 15 Canaan Conservation Area
- 16 Johnson Shut-Ins State Park

WET PRAIRIE

- 17 Douglas Branch Conservation Area
- 18 Ripgut Prairie Natural Area
- 19 Loess Bluffs National Wildlife Refuge
- 20 Pershing State Park



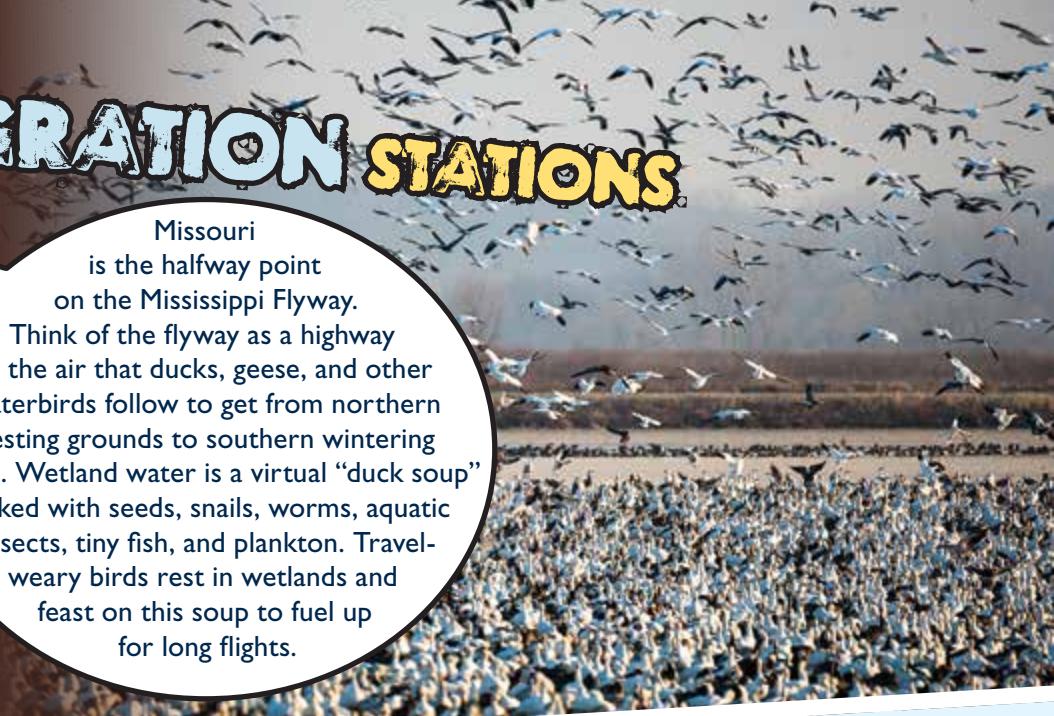
Migration Stations



Missouri

is the halfway point
on the Mississippi Flyway.

Think of the flyway as a highway
in the air that ducks, geese, and other
waterbirds follow to get from northern
nesting grounds to southern wintering
areas. Wetland water is a virtual "duck soup"
packed with seeds, snails, worms, aquatic
insects, tiny fish, and plankton. Travel-
weary birds rest in wetlands and
feast on this soup to fuel up
for long flights.



Good for People Too!

From bulrushes to
beavers, wetlands provide
homes to thousands of
plants and animals. But
do wetlands do anything
for people? You bet!

WETLANDS FILTER POLLUTION.

Wetland
plants
and soils trap
chemicals that cause
water pollution. This
helps to keep water
clean and safe to
drink.

WETLANDS OFFER PLACES TO PLAY.

Wetlands
are a great
place to have
fun outside. Many
people visit wetlands
to fish, hunt, and
watch wildlife.

WETLANDS SLOW EROSION.

Because
they're fairly
flat, water slows
down and spreads out
when it flows through a
wetland. This allows soil
to settle out of the water
before it reaches
streams and
rivers.

WETLANDS CONTROL FLOODS.

Wetlands
act like giant
sponges, soaking
up heavy rainfall
and releasing the water
s-l-o-w-l-y into rivers
and streams. This cuts
back flooding for
downstream cities
and farms.

I wish
everyone knew
how wonderful wetlands
are. That's where you come in.
Now that you know, you can
show others why wetlands
must be protected.



THE STRUGGLE TO SURVIVE ISN'T ALWAYS A FAIR FIGHT

THIS ISSUE:

EASTERN MOLE VS NIGHT CRAWLER

Illustrated by David Besenger



STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND UNBELIEVABLE STUFF
THAT GOES ON IN NATURE



Bunches of bunnies: Biologists estimate that a female **COTTONTAIL** can raise 35 young in a year. If winter ends early, mama cottontails start having babies in mid-March and may produce seven more litters through September.

PADDLEFISH may grow 7 feet long and weigh 150 pounds. What does a fish that big eat? Itty-bitty animals that drift as plankton. A paddlefish swims with its mouth open, and plankton gets trapped in the fish's throat in an organ that acts like a strainer.



Have a heart — or five. Inside an **EARTHWORM** are five organs called aortic (ay-or-tick) arches. The arches work like hearts to pump blood throughout an earthworm's long, skinny body.



A male **RED-WINGED BLACKBIRD** may have as many as 15 mates nesting in his territory. But defending all those nests is a ton of work. Blackbird dads often spend more than a quarter of their waking hours chasing away other males.

Don't mess with **BLISTER BEETLES**, buster. When threatened, the insects release a toxic liquid that causes painful sores. The beetles sometimes feed on alfalfa, a crop used to make hay. If a horse eats hay with too many beetles in it, the horse may die.



If you think all **THREE-TOED BOX TURTLES** are three-toed, you'd be toe-tally wrong. Missouri's state reptile normally sports three toes on each hind foot, but some individuals have four per foot.



RAIRIE CHICKEN hens like a mate who knows how to dance. To show off for females, a male drops his wings, fans out his tail, inflates orange air sacs on his neck, and stamps his feet. Now that's one funky chicken!



HOW TO



Plant a Pollinator Paradise

Wild bergamot

Biologists are worried because bee and butterfly numbers are dropping. Improper use of pesticides and loss of habitat are likely to blame. You can bring the buzz back by planting a patch of native flowers.



PICK A PLANTING SPOT

Bee sunny. You'll attract the widest variety of pollinators if you place your garden in a sunny spot. If a site receives six or more hours of sun, it's sunny. If it gets less than that, it's shady.

Bee near water. Choose a location with easy access to water. Baby plants need water every day until they adapt to their new surroundings.

Bee smart. You don't want other plants to compete with your new flowers, so dig grass and weeds out of the area you plan to plant.



PICK YOUR PLANTS

Bee native. Choose native perennials for your pollinator paradise. "Perennials" are plants that come back year after year. "Native" means they're from Missouri. Native plants are adapted to Missouri's weather, they need less water, and they provide the best food for pollinators. To find a native plant nursery, visit grownative.org.

Bee diverse. Different pollinators like different flowers, so plant a variety of species.

Bee generous. Plan a mix of flowers so that something is in bloom from April to October.



GET YOUR HANDS DIRTY

Bee well read. Each seedling should come with planting instructions. Read them. They'll tell you how to plant the seedling and how far away to space it from other seedlings.

Bee clumpy. Cluster the same type of flowers together instead of scattering them around. This way pollinators don't have to work hard to find what's blooming.

Bee mulchy. Mulch is a flower's best friend. Spread some around your new plants. It will keep weeds at bay and hold water in the soil.

Bee chemical free. Pesticides and herbicides kill pollinators. Avoid using them.

Bee patient. It may take time for native plants to grow and for pollinators to find your flowers.



What's All the Buzz About?

Bees, butterflies, and other pollinators are nearly as important as sunlight and water to a plant. As pollinators fly from plant to plant, they transfer pollen from one flower to another. Flowers use the pollen to make seeds, which grow into new plants. More than 150 crops in the United States depend on pollinators. Foods such as apples, strawberries, tomatoes, and almonds wouldn't exist without these busy little flower farmers.

POWER FLOWERS

Here are a few native plants that are guaranteed to make your backyard buzz. They look great, too!

- * **Butterfly milkweed**
- * **Blue wild indigo**
- * **Aromatic aster**
- * **Wild bergamot**
- * **Eastern blazing star**
- * **Slender mountain mint**
- * **Cliff goldenrod**
- * **Purple coneflower**

XPLOR MORE

Scrambled Eggs

Birds aren't the only animals that lay eggs. Insects, fish, amphibians, reptiles, and many other kinds of animals are egg-cellent egg layers. See if you can find all the eggs hidden in this scene and then match them to the mama who laid them.

Northern cardinal

Canada goose

American bullfrog

1

WHAT IS IT?

— FROM PAGE 3 —

we call it a devil? Maybe because people once thought it burrowed into coffins. Truth is, devil crayfish “wells” can serve as temporary homes for other little water critters during dry spells.

With large, powerful claws, the devil crayfish digs deep tunnels along wooded streams and ditches. It eats plants, worms, insects, snails, and dead animals. Why do





SUBSCRIBE ONLINE

mdc.mo.gov/xplor

FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

Western Slender Glass Lizard



- Missouri's longest lizard looks like a snake, but it isn't. Unlike snakes, it has eyelids and ear openings. Glass lizards can grow up to 26 inches long. Most of this length is tail, which can break off in a predator's (or kid's) grip. The glass lizard can regenerate its tail, but it will be shorter and darker. Look for it in pastures, prairies, and open woods on dry, rocky hillsides.
- Learn more at mdc.mo.gov/field-guide.